

Sir. In conformity with the wish of the Director of the Mint I herewith offer a few remarks on the letters (of the 16th June) of the Assayer & Melter & Refiner to the Superintendent of the ~~Assay~~ U. States Assay Office, New York on the subject of silver containing selenium.

The presence of selenium in some of our silver bars, ^{not only} ~~its influence~~ ^{detracting} ~~ence~~, have been so well handled by the Assayer of this Mint, that I cannot add anything to his statements & conclusions, except that they gave a ~~clear~~ ^{resolved} ~~interpreted~~ ^{explained} some hitherto unexplained difficulties in working silver, to the satisfaction of all the officers of the Mint, who thought that the interchange of observation & thought on the subject might prove of value to the public service.

I therefore confine myself to that portion of M^r Mason's letter which, after a hasty dismissal of the selenium question, consists of ~~the~~ his often repeated ~~plea~~ ^{to this Mint N-47} solicitation that he may be allowed to ~~send~~ ^{forward} from the Assay Office silver of a less fineness than ~~the~~ ⁹⁹⁷ $\frac{1}{2}$, on the grounds, that such an arrangement "would avoid all trouble concerning direct shipments to the Mint," and that the expense of taking copper out of thousands of ounces ^(to be put in again) would be saved to the Govt."

~~I regret to perceive~~ I regret to perceive ~~there is a fallacy in each of these grounds~~ 1. I cannot perceive how the sending of fine silver of less weight than the same silver with copper ^{cannot surely} ~~would surely~~ on the ground of weight. I cannot conceive how the sending of fine silver would avoid any more trouble in shipment than the same silver alloyed with copper: If the avoidance of trouble means the avoidance of the necessity of taking out the copper, then this

ground falls in with the ~~last~~ ^{second} ground, ~~and~~ the meaning conveyed is that it is troublesome, & ^{needless} costly to separate copper from silver ~~and~~ ^{to ship} instead of shipping the alloy ~~to be~~ of silver & copper direct without modification.

It is no more trouble for us to receive fine silver than ~~the same~~ ^{when it is} alloyed with copper; but of course it is more troublesome to the assay office to make it fine. There is a fallacy underlying the assertion that the Govt loses all the cost of taking out copper from silver, when the copper is to be put in again. ~~We do not say that~~ ^{extract} We have to ~~take~~ ^{extract} the copper out, in order to ^{extract remove} ~~get out~~ small quantities of associated metals, which harden & embrittle our coin alloy, & unless we take out ~~the~~ all the copper we cannot ^{be sure of removing} ~~those~~ embrittling associates. By taking out ^{all} ~~these~~ metallic ~~all~~ elements ^{left} we have commercially pure silver, to which we add the highest grade of commercial ^{pure} copper, & thus insure ~~the softness~~ ^{with more certainty} ~~that~~ ^{that combination} medium degree of hardness, without brittleness, which characterizes our coin.

I suppose Mr. Mason means that it is troublesome, costly & needless to separate copper from ^{& ship the silver alone} silver alloy, instead of shipping the alloy ~~direct without treatment~~, & using it directly in coin.

~~The~~ Objections to any other than fine silver. Experience showed that when ^{by agreement we} ~~we had agreed to~~ received silver of 900 @ 950, ~~we not only had coin as not being suitable for coinage according to agreement,~~ ^{& ship the silver alone} we had to complain of it constantly, ~~because depending it would not work well in coining.~~ ^{daily} a large portion was returned by the Coiner to the M.T.R. to be remelted & fluxed to make it suitable for coinage, in spite of the agreement to deliver only what was suitable for coinage. ~~There was not~~ The cost of remelting, embracing loss of materials used, loss of time of men, & above all wastage of silver, — more than covered the cost it would have been to have refined the silver to over 997 & then put in pure copper.